



IONA JOHNSON

CALCIUM

Element Symbol: **Ca**

Atomic Number: **20**

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The name Calcium arises from the Latin word calx meaning lime or calcium oxide. It is calcium oxide that keeps much of the modern world standing as it is one of the principle components of cement and mortar. It would also be familiar to many gardeners as a way to raise soil pH and turn hydrangeas from blue to pink.

Just like the built environment, a calcium compound keeps all of us standing. Calcium in the form of a compound called hydroxyapatite is the major structural material of bones and teeth. Calcium is therefore an essential dietary element that can be found in dairy products and also many other foods. Another calcium salt is calcium carbonate or limestone that dissolves and deposits over centuries to form the spectacular cave formations at Jenolan and elsewhere.

Elemental calcium metal is silvery but forms a grey white oxide coating on exposure to air. It is reactive and can be made to burn in air like its close cousin magnesium albeit with a bright red flame. The element was discovered in 1808 by Sir Humphrey Davy who isolated it by electrolysing a mixture of calcium and mercury oxides. The resulting product was a mixture, or amalgam of metallic calcium and mercury. This pure metal could then be isolated by distilling the volatile mercury away from the metallic calcium using high temperatures in a custom made apparatus devoid of oxygen. These were ingenious experiments indeed!

The calcium symbol “Ca” contains the first two letters of my son’s name Callum Jeffrey McLeod born 11 April 2008.

Provided by the element sponsor Mal McLeod

ARTISTS DESCRIPTION

Calcium is a structural component of bones, stalactites, coral and shells. This image is a cross section of a shell taken from an x-ray image. It looks like a shell but also like the structure of vertebrate spines. I chose a creamy brown colour for the shell and a deep blue on top – together these colours suggest the sand and sea of the shell’s environment.

The etched wash marks of the first printed layer mimic the interplay of sand and water. The bone colour of the lettering again echoes calcium in its commonly occurring form, calcium carbonate.

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